Appl. No. : **10/036,041**
Filed : **December 26, 2001**

AMENDMENTS TO THE CLAIMS

1-21 (Cancelled)

22. (Previously presented) An isolated nucleic acid having at least 80% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(c) the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation.

23. (Previously presented) The isolated nucleic acid of Claim 22 having at least 85% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(c) the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation.

24. (Previously presented) The isolated nucleic acid of Claim 22 having at least 90% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(c) the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation.

25. (Previously presented) The isolated nucleic acid of Claim 22 having at least 95% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(c) the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation.

26. (Previously presented) The isolated nucleic acid of Claim 22 having at least 99% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(c) the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581, wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation.

27-35 (Cancelled)

36. (Currently Amended) An isolated nucleic acid that hybridizes under stringent conditions to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2;

(c) the nucleic acid having the sequence of SEQ ID NO:1;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581;

wherein said isolated nucleic acid encodes a polypeptide having the ability to induce chondrocyte redifferentiation; and

wherein the stringent conditions comprise:

50% formamide;

5 x SSC (0.75 M NaCl, 0.075 M sodium citrate);

50 mM sodium phosphate (pH 6.8);

0.1% sodium pyrophosphate;

5 x Denhardt's solution;

sonicated salmon sperm DNA (50 micrograms/ml)

0.1% SDS, and 10% dextran sulfate at 42°C;

a washes at 42°C in 0.2 x SSC (sodium chloride/sodium citrate);

~~and~~a wash in 50% formamide at 55°C; and

a high-stringency wash consisting of 0.1 x SSC containing EDTA at 55°C.

37. (Cancelled)

38. (Currently amended) A vector comprising the nucleic acid of Claim 22, Claim 52, or Claim 58.

39. (Previously presented) The vector of Claim 38, wherein said nucleic acid is operably linked to control sequences recognized by a host cell transformed with the vector.

40. (Previously presented) A host cell comprising the vector of Claim 38.

41. (Previously presented) The host cell of Claim 40, wherein said cell is a CHO cell, an *E. coli* or a yeast cell.

42. (Previously presented) An isolated nucleic acid comprising:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide;

(c) the nucleic acid having the sequence of SEQ ID NO:l;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:l; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581.

43. (Previously presented) The isolated nucleic acid of Claim 27 comprising a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2.

44. (Previously presented) The isolated nucleic acid of Claim 27 comprising a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide.

45. (Previously presented) An isolated nucleic acid comprising the nucleic acid having the sequence of SEQ ID NO: 1.

46. (Previously presented) An isolated nucleic acid comprising a fragment of the nucleotide sequence of SEQ ID NO:1, wherein said fragment comprises nucleotides 486-577 of SEQ ID NO:1.

47. (Previously presented) The isolated nucleic acid of Claim 46, wherein said fragment consists essentially of nucleotides 486-577 of SEQ ID NO:1.

48. (Previously presented) An isolated nucleic acid comprising a fragment of the nucleotide sequence of SEQ ID NO:1, wherein said fragment comprises one or more nucleotide sequences from SEQ ID NO:1 selected from the group consisting of nucleotides 169-273, 178-282, 160-264, 241-342, 232-333, 187-288, 151-252, 133-232, 142-241, 97-198, 198-297, 124-225, 403-507, 604-663, and 703-732.

49. (Previously presented) An isolated nucleic acid comprising a nucleotide sequence which encodes a fragment of the amino acid having the sequence of SEQ ID NO:2, wherein said fragment comprises amino acids 137-167 of SEQ ID NO:2.

50. (Previously presented) The isolated nucleic acid of Claim 49, wherein the encoded fragment consists essentially of amino acids 137-167 of SEQ ID NO:2.

51. (Previously presented) An isolated nucleic acid comprising a nucleotide sequence which encodes a fragment of the amino acid having the sequence of SEQ ID NO:2, wherein the

encoded fragment comprises one or more amino acid sequences from SEQ ID NO:2 selected from the group consisting of amino acids 57-91, 60-94, 54-88, 81-114, 78-111, 63-96, 51-84, 45-78, 48-81, 33-66, 66-99, 42-75, 135-169, 202-221, and 235-244.

52. (New) An isolated nucleic acid having at least 80% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide;

(c) the nucleic acid having the sequence of SEQ ID NO:1;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581; and

wherein said isolated nucleic acid comprises a sequence encoding a C1q domain signature sequence or a C1q domain protein sequence.

53. (New) The isolated nucleic acid of Claim 52, wherein said sequence encoding a C1q domain signature sequence comprises nucleotides 486-577 of SEQ ID NO:1.

54. (New) The isolated nucleic acid of Claim 52, wherein said encoded C1q domain signature comprises amino acids 137-167 of SEQ ID NO:2.

55. (New) The isolated nucleic acid of Claim 52, wherein said sequence encoding a C1q domain protein sequence comprises a nucleotide sequence from SEQ ID NO:1 selected from the group consisting of nucleotides 169-273, 178-282, 160-264, 241-342, 232-333, 187-288, 151-252, 133-232, 142-241, 97-198, 198-297, 124-225, 403-507, 604-663, and 703-732.

56. (New) The isolated nucleic acid of Claim 52, wherein said encoded C1q domain protein sequence comprises an amino acid sequence from SEQ ID NO:2 selected from the group consisting of amino acids 57-91, 60-94, 54-88, 81-114, 78-111, 63-96, 51-84, 45-78, 48-81, 33-66, 66-99, 42-75, 135-169, 202-221, and 235-244.

57. (New) The isolated nucleic acid of Claim 52, wherein said isolated nucleic acid further comprises a nucleotide encoding a polypeptide sequence having homology to a subunit of collagen alpha 1(x).

58. (New) An isolated nucleic acid having at least 80% nucleic acid sequence identity to:

(a) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2;

(b) a nucleic acid sequence encoding the polypeptide having the sequence of SEQ ID NO:2, lacking its associated signal peptide;

(c) the nucleic acid having the sequence of SEQ ID NO:1;

(d) the full-length coding sequence of the nucleic acid having the sequence of SEQ ID NO:1; or

(f) the full-length coding sequence of the cDNA deposited under ATCC accession number 203581; and

wherein said isolated nucleic acid comprises a nucleotide encoding a polypeptide sequence having homology to a subunit of collagen alpha 1(x).

59. (New) The isolated nucleic acid of Claim 58, wherein said isolated nucleic acid further comprises a sequence encoding a C1q domain signature sequence or a C1q domain protein sequence.

60. (New) An isolated nucleic acid encoding a chimeric molecule, wherein said isolated nucleic acid comprises a nucleic acid selected from the group consisting of a nucleic acid according to Claim 22, Claim 52, and Claim 58, and said isolated nucleic acid further comprising a sequence encoding a heterologous amino acid sequence.

61. (New) A process for producing a PRO polypeptides comprising culturing the host cell of Claim 40 under conditions suitable for expression of said PRO polypeptide and recovering said PRO polypeptide from the cell culture.

62. (New) An antibody or antibody fragment which specifically binds to a polypeptide encoded by the isolated nucleic acid of Claims 22, 52, or 58.

63. (New) The antibody of Claim 62, wherein said antibody is a monoclonal antibody, a humanized antibody or a single-chain antibody.

64. (New) A composition comprising:

an isolated nucleic according to any of Claims 22, 52 or 58; and

a pharmaceutically acceptable carrier.